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(54) **VEHICLE WITH TAIL GATE**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

5,083,833 A 1/1992 Herrmeyer

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FOREIGN PATENT DOCUMENTS

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CA	2158180 A1	3/1997
DE	10 2007 056 853 A1	5/2009
DE	10 2009 030 572 A1	12/2010
EP	1764247 *	9/2006
EP	2386435 *	11/2011
JP	2514650 Y2	10/1996
JP	2005-053315 A	3/2005
WO	2007090061	8/2007

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B60J 5/107 (2013.01)

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OTHER PUBLICATIONS

Supplementary European Search Report dated Apr. 29, 2016 to cor-
responding European Patent Application No. 13812785.7.

* cited by examiner

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(57) **ABSTRACT**

A vehicle with a tail gate wherein the movement distance
around the vehicle is reduced. In a vehicle with a tail gate, a
tail gate is supported on a vehicle body such that a rear
opening formed on the rear part of the vehicle body opens and
closes. The tail gate has a sub opening formed on the tail gate,
and a sub door for opening and closing the sub opening in the
vehicle width direction. The width of the sub opening in the
vehicle width direction is shorter than the width of the rear
opening. One side border of the sub opening in the vehicle
width direction is located in the vicinity of one edge of the tail
gate in the vehicle width direction. The sub door is supported
on the tail gate so as to begin to open from the side border of
the opening.

5 Claims, 16 Drawing Sheets

